

What Is Claimed Is:

1. A refrigeration system including a self contained refrigeration unit for mounting in a food storage cabinet or structure, comprising:

a refrigeration unit including a housing containing evaporation tubing and cooling vanes;

said housing being relatively thin and having a depth of not more than six inches;

said housing having an air inlet at the bottom thereof, and a fan and an outlet toward the top of said housing for directing cold air from the refrigeration unit into the food storage structure;

the refrigeration unit being structurally independent of and located wholly within the food storage structure;

a separate compressor and condenser located outside of said food storage structure, and coupled to said refrigeration unit by conduits;

an expansion valve located in said housing near said air inlet, for receiving cooled compressed refrigerant and supplying cold expanded refrigerant to said tubing for heat exchange utilizing said cooling vanes; and

said fan and an associated electric motor forming a sub-unit, said sub-unit being readily removable from said housing as an integral sub-unit.

2. A refrigeration system including a self contained refrigeration unit for mounting in a food storage cabinet or structure, as defined in claim 1 wherein said sub-unit is mounted to said housing on tracks, and quick release arrangements are provided for holding said sub-unit into said housing.

3. A refrigeration system including a self contained refrigeration unit for mounting in a food storage cabinet or structure, as defined in claim 1 wherein an additional fan is mounted as part of said sub-unit, for cooling said electric motor.

4. A refrigeration system as defined in claim 1 wherein said sub-unit has two metal flanges, and wherein said housing has mating slots for receiving said flanges.

5. A refrigeration system as defined in claim 1 wherein said quick release arrangements include two springy metal strips for biasing said sub-unit into engagement with said housing.

6. An efficient refrigeration system comprising:

a refrigeration unit including a housing;

said housing having an input opening and an outlet opening;

evaporation cooling coils, mounted into said housing;

a sub-unit including a centrifugal fan and an electric motor removably mounted into said housing on tracks; said fan drawing air from said input opening, across said cooling coils, and out said outlet opening;

an expansion valve coupled to said cooling coils, said expansion valve being mounted adjacent said input opening; and

quick release arrangements for firmly securing said sub-unit in place by exerting force between said sub-unit and said tracks.

7. An efficient refrigeration system as defined in claim 6 wherein said tracks provide two slots formed as part of said housing, said sub-unit has outwardly extending flanges to mate with said slots, and wherein the quick release arrangements comprise springy metal strips that are insertable into said slots to hold said flanges and the associated sub-unit in place within said housing.

8. A refrigeration system including a self contained refrigeration unit for mounting in a food storage cabinet or structure, as defined in claim 6 wherein an additional fan is mounted as part of said sub-unit, for cooling said electric motor.

9. A refrigeration system including a self contained refrigeration unit for mounting in a food storage cabinet or structure, comprising:

a refrigeration unit including a housing containing evaporation tubing and cooling vanes;

said housing being relatively thin and having a depth of not more than six inches;

said housing having an air inlet at the bottom thereof, and a fan and an outlet toward the top of said housing for directing cold air from said refrigeration unit into said food storage structure;

said refrigeration unit being structurally independent of and located wholly within the food storage structure;

a separate compressor and condenser located outside of said food storage structure, and coupled to said refrigeration unit by conduits;

said fan and an associated electric motor forming a sub-unit, said sub-unit being readily removable from said housing as an integral sub-unit.

10. A refrigeration system including a self contained refrigeration unit for mounting in a food storage cabinet or structure, as defined in claim 9 wherein said sub-unit is mounted to said housing on tracks, and resilient arrangements are provided for holding said sub-unit into said housing.

11. A refrigeration system including a self contained refrigeration unit for mounting in a food storage cabinet or structure, as defined in claim 9 wherein an additional fan is mounted as part of said sub-unit, for cooling said electric motor.

12. An efficient refrigeration system comprising:

a refrigeration unit including a housing;

said housing having an input opening and an outlet opening;

evaporating cooling coils, mounted into said housing;

a sub-unit including a fan and an electric motor removably mounted into said housing on a guiding, supporting and alignment construction; said fan drawing air from said input opening, across said cooling coils, and out said outlet opening; and

quick release arrangements for firmly securing said sub-unit in place by exerting force between said sub-unit and said housing.

13. A refrigeration system as defined in claim 12 wherein said refrigeration unit is less than six inches thick.

14. A refrigeration system as defined in claim 12 wherein said guiding, supporting and alignment construction includes flanges on said sub-unit and slots on said housing.

15. A refrigeration system as defined in claim 14 wherein said quick release arrangements include springy metal strips biasing each of said flanges toward one side of one of said slots.

16. A refrigeration system as defined in claim 12 wherein an additional fan for cooling said motor forms part of said sub-unit.

17. A refrigeration system as defined in claim 12 wherein said system includes an expansion valve, and wherein said expansion valve is mounted near said inlet opening.

18. A refrigeration system as defined in claim 12 wherein said housing is generally rectangular in shape and has a height and a width of more than 12 inches, and is less than six inches thick for convenient mounting on the inner wall of a food storage cabinet or structure.